

CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 April 2004 (08.04.2004)

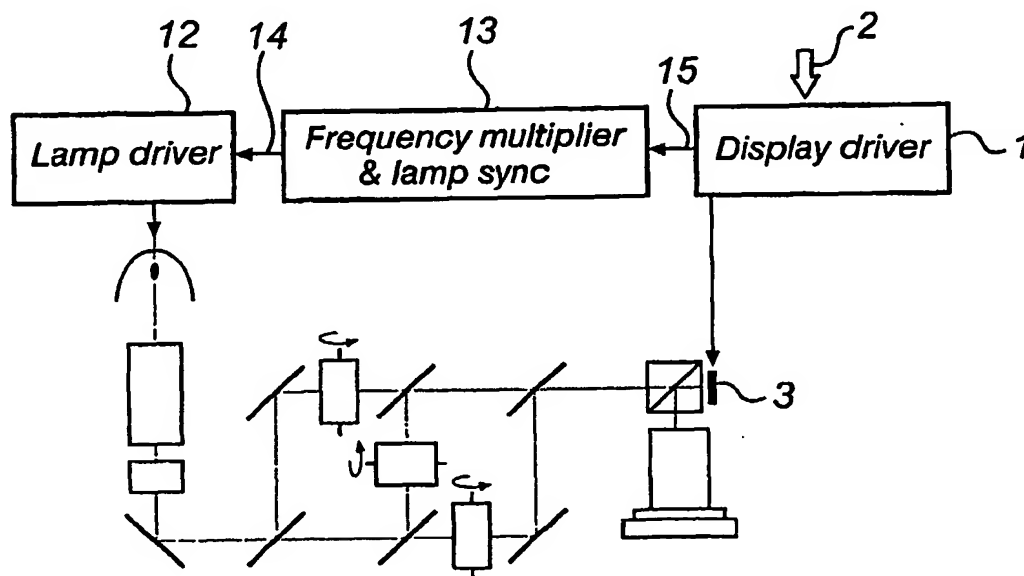
PCT

(10) International Publication Number
WO 2004/030371 A1

- (51) International Patent Classification⁷: **H04N 9/31** (74) Agent: VAN DEN HOOVEN, Jan; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (21) International Application Number: PCT/IB2003/003564
- (22) International Filing Date: 8 August 2003 (08.08.2003) (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 02078973.1 25 September 2002 (25.09.2002) EP
- (71) Applicant (*for all designated States except US*): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): VANLIER, Gerardus, J., J. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SCROLLING COLOR PROJECTION SYSTEM WITH LAMP SYNCHRONIZATION



(57) Abstract: A scrolling color projection system, comprising a pulsed lamp (4) and a color scanner (6, 8a, 8b, 8c, 9) for generating a light beam (5b) with a plurality of scrolling color fields, arranged to illuminate a display device (1, 3) to produce a projection of an image generated by the display device, wherein the frequency of the lamp is controlled so as to be related to the frame rate of the display device. By controlling the lamp frequency in relation to the frame rate, a generated interference pattern can be controlled to be distributed over several frame periods and over the entire height of the display. In particular, the pattern can be controlled in such a way that it is not perceptible to the human eye.

**Declaration under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

Published:

- *with international search report*

(48) Date of publication of this corrected version:

17 March 2005

(15) Information about Correction:

see PCT Gazette No. 11/2005 of 17 March 2005, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

PCT/7/03/03564

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04N9/31

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/022692 A1 (SMITS WILLEM HENDRIK ET AL) 20 September 2001 (2001-09-20) paragraph '0027!', sentence 1; figure 1 ---	1, 3, 5, 7
X	US 5 706 061 A (HUANG AUSTIN L ET AL) 6 January 1998 (1998-01-06) abstract; figure 1 ---	1, 3, 5, 7
A	US 6 361 172 B1 (BRENNESHOLTZ MATTHEW) 26 March 2002 (2002-03-26) column 1, line 29 - line 50 column 3, line 56 - line 60 ---	1
A	US 5 548 347 A (JANSSEN PETER J ET AL) 20 August 1996 (1996-08-20) -----	

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

24 November 2003

Date of mailing of the international search report

20/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Montanari, M

INTERNATIONAL SEARCH REPORT

PCT/JP03/03564

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 2001022692	A1	20-09-2001	WO	0149041 A1		05-07-2001
			EP	1157563 A1		28-11-2001
			JP	2003518643 T		10-06-2003
			TW	519832 B		01-02-2003
US 5706061	A	06-01-1998	NONE			
US 6361172	B1	26-03-2002	WO	0172047 A1		27-09-2001
			EP	1183876 A1		06-03-2002
			JP	2003529095 T		30-09-2003
			TW	518894 B		21-01-2003
US 5548347	A	20-08-1996	US	5410370 A		25-04-1995
			DE	69519220 D1		30-11-2000
			DE	69519220 T2		17-05-2001
			EP	0720802 A1		10-07-1996
			WO	9603842 A1		08-02-1996
			JP	3280984 B2		13-05-2002
			JP	9512648 T		16-12-1997
			US	5528318 A		18-06-1996
			DE	69324551 D1		27-05-1999
			DE	69324551 T2		21-10-1999
			EP	0601666 A1		15-06-1994
			JP	3278270 B2		30-04-2002
			JP	6319148 A		15-11-1994
			US	5532763 A		02-07-1996
			US	5508738 A		16-04-1996
			US	5608467 A		04-03-1997
			US	5416514 A		16-05-1995
			CN	1062819 A ,B		15-07-1992
			DE	69125125 D1		17-04-1997
			DE	69125125 T2		21-08-1997
			EP	0492721 A2		01-07-1992
			JP	3352100 B2		03-12-2002
			JP	4316296 A		06-11-1992
			KR	223724 B1		15-10-1999